

*The Wisdom and Goodness of GOD, in the
Vegetable Creation.*

693. f. 11.

A

S E R M O N

Preached at

St. MARTIN's Church, *Ludgate,*

O N

SEPTEMBER the 20th, 1759,

Before the Worshipful

COMPANY of APOTHECARIES.

And now published at their Request.

By WILLIAM DODD, M. A.

L O N D O N:

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A N D

W. BRISTOW, next the Great Toy-shop in St. Paul's Church-Yard.

Apothecaries-Hall, September 20, 1759.

AT a Court of Assistants held this Day, *Ordered*, That the Thanks of this Court be given the Reverend Mr. DODD, for his excellent Sermon preached before the Company this Day, and that he be desired to permit the same to be printed; and that the said Order be transcribed and signed by the Clerk, and presented to the said Mr. DODD by the late Master.



Reg^d. Dennison, Cl.

T O

Mr. *WILLIAM TYSON*, MASTER,

Mr. *WILLIAM GATAKER*,
BENJAMIN CHARLEWOOD, Esq; } WARDENS,

The COURT of ASSISTANTS,

And all the other Members of the respectable

COMPANY of *APOTHECARIES*,

T H I S

S E R M O N

Is inscribed, with all proper Deference,

B Y

Their much obliged, and

Obedient Servant,

Plaslow, April 21,
1760.

WILLIAM DODD.

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PSALM civ. 24.

O LORD HOW MANIFOLD ARE THY WORKS; IN WISDOM HAST THOU MADE THEM ALL: THE EARTH IS FULL OF THY RICHES.

WHETHER there ever was an *Atheist* in reality, has been a question with many: since the works of *creation* bear such manifest marks of a creator, are so visibly imprest with the character of a divine and forming hand, that it seems scarce possible to resist the evidence, and to oppose all the arguments of plain reason, and common sense. For if it be rational and right to deduce a cause from an effect, and to infer a work-master from a work, a designer from a design; nothing can be more evident, than that the wonders of nature, and the works of creation immediately lead to the great and forming master; that the *heavens declare the glory of God, and the firmament, as well as every other created being, abundantly sheweth his handy-work.*

Indeed, this argument hath been so powerfully urged, and so completely handled; that it would derogate as much from the honour of a man's understanding, as of his piety, to suppose him under even the least doubt, respecting the existence of that sovereign and universal being, whose omnipotent word created; whose unfathomable wisdom directs; and whose boundless power supports the whole system of created things. In which we observe such exactness of order; such beauty and symmetry of design; such harmonious concurrence in all the parts; such grandeur, magnificence, and extensive utility, throughout the

whole; that he who can conceive either *chance* or *malevolence*, * adequate to the production of such effects, must be strangely ignorant of the efficacy of those causes. And, with the same shew of reason, might urge, that the finest buildings were form'd by a fortuitous jumble of wood, stones, and other materials together: or the most beautiful and elegant garden disposed in all its elegance, without the least intervention of the master's design, or the labourer's toil.

The works of God, unlike those of men, are more admirable and excellent, the nearer and more minutely they are surveyed: the closer inspection we make into the particular productions of the creator's hands; the more accurately we consider the general plan, and the exquisite harmony of all its parts; the more shall we discern the footsteps of that superlative wisdom, which is marked with very strong traces, even on the meanest, and the lowest of its creatures. † The *Psalmist*, struck with the view of God's wonders in the creation; with the admirable variety; the extraordinary wisdom; the exuberant bounty, and goodness of the creator; breaks out into a kind of rapture, *O Lord, how MANIFOLD are thy works: in WISDOM hast thou made them all: the earth is full of thy RICHES: and in*

* As did the followers of *Epicurus*, *Manes*, and others of the heathen world, who professing themselves to be *wise*, became *fools*.

† Bishop *Wilkins* remarks, that, since the *Microscope* has been used, whatever is *natural*, appears by that adorned with all imaginable elegance and beauty.—Whereas the most curious works of art, the sharpest finest needle, doth appear as a blunt, rough bar of Iron, coming from the furnace or the forge. The most accurate engravings or embossments, seem such rude, bungling, deformed works, as if they had been done with a mattock or a trowel. So vast a difference is there betwixt the skill of nature, and the rudeness and imperfection of art. *Nat. Relig. lib. i. cap. 6.*

another place, *the earth*, says he, *is full of the GOODNESS of the Lord!*

Even to enumerate the mighty works of God in creation, would exceed the bounds allotted me at present; much more to discourse of their several excellencies. For how manifold are his works, and how mighty his wonders discovered in the *firmament* above us: in the golden sun, placed in the centre of our system, source of light and life: in the planets, which roll in harmonious measures around it: in the moon and the stars, which beautify the dreary gloom of night: and in the riches of those planetary orbs, millions of which perhaps, are performing their several revolutions round the fixt stars, that are to them as so many suns? What wonders and wisdom are discoverable in the *atmosphere* around our earth, charged with its air and vapours, its winds and storms, clouds and rain, and all its necessary furniture? And in the *earth* itself, what an inexhaustible source of contemplation! Its form the most commodious; its situation in the system the most advantageous; its vast waters amazingly disposed and confined; and its surface richly supplied with every requisite to the well-being of its inhabitants! Beautifully cloath'd with flowers, herbs, trees, and fruits, incredible in their number, inexhaustible in their variety: Here refreshed with the ever-flowing lapse of cool and limpid fountains †; there enriched with the fattening streams of deep-channell'd rivers; and diversified with the chearful verdure of their flowery and fruitful banks: Here are found vast caves and recesses in

† The learned reader will immediately discern that I have that fine expression of *Cicero's* in view, *Fontium gelidas perennitates*, the beauty of which, I conceive, is not to be imitated in any other language.

the rugged rocks, providential haunts and habitations for the wild beasts of the forests : there prodigious mountains rear their unwieldy heads ; while spacious vallies finely extend their variegated prospects between them, vallies that *stand thick with corn*, or afford pasture to the wonderful variety of animals, which walk the earth. If to these we add the inhabitants of the air, the creation distinguish'd for their feather and their song : and if besides, we contemplate the riches and wonders discoverable in the bowels of the earth ; the minerals, fossils, precious ore, and glittering jewels : if we take a view of the reptile and insect world ; and survey every thing, teeming with life : If we turn our eyes to a very different scene, and contemplate the amazing magnificence of the watery domain, rolling it's vast waves round the earth, wherein are things creeping innumerable, both small and great beasts ; *where go the ships, and where is that Leviathan, whom God hath made to take his pastime therein ;*—And in short, if to crown the survey of animate, and inanimate nature, we stand still and view ourselves ; contemplate man, the apparent Lord of the world, and the great *link* of heaven and earth ; with a body wonderfully form'd, and a reasonable soul far more wonderful :—If, I say, we were to consider the manifold wisdom of God, discernible in each of these particulars, our contemplations would be carried beyond all bounds ; tho' every step we took we should still find reason more and more to confess, that exquisite *wisdom*, uncontrollable *power*, and inexhaustible *goodness* were displayed in full lustre, in all, in every particular of the great JEHOVAH's creation.

It would be as entertaining as useful to carry our speculations

culations thro' nature ; but the present occasion requires that we fix our attention on *one* branch only of the creator's work : and *one* it is, which well deserves, and will well repay our minutest discussion. Variety, wisdom, power and goodness, being written on no part of the inanimate creation in characters more legible than on the *vegetable* world. It is impossible in the compass of a discourse, to speak of this subject as it deserves ; or to do more than take a general, and a *transient* view of those things, which separately consider'd, would each of them, supply us with a large fund of meditation. I shall therefore only, following the plan suggested by the text, shew in the

I. place, and in a general view, what a wonderful *VARIETY* is discernible in the *vegetable* world, *How manifold are thy works, O Lord !*

II. I will shew that they bear the amplest testimony to the *WISDOM* of the creator : *In wisdom hast thou made them all.*

And III. How much they teach us to bless and adore the *RICHES* of the divine *GOODNESS*. — *The earth is full of thy riches ; — is full of the goodness of the Lord.* These three things very briefly touch'd upon, with a concluding remark or two, respecting the *use* we should make of this subject, will serve for our present employment.

I. then, let us see how manifold the works of God are, and what a surprizing *variety* appears in the vegetable creation.

Did we confine our survey to the productions of our own island, or at least to those of the *European* world, we should find a variety perfectly amazing : whether we considered the several sorts of trees, of herbs, or of flowers, where-

wherewith the creator hath bountifully supplied us. But when we look further, and reflect upon the profusion of *Asiatic*, and of *African* climates, rich in fruits, and dispensing odoriferous sweets throughout the earth ; we shall be at a loss, which most to admire, the goodness of God, in supplying us with such gifts ; or the power and wisdom of God, in creating such an innumerable, such an inexhaustible store.—Yet, surprizing, as is the variety of *herbs*, *fruits*, and *flowers* ; numberless as their several *genus*'s, and passing all idea, as are their particular *species*, in the *European*, *Asiatic*, *African* climates ; yet, to enhance our wonder, modern times have discover'd a country prolific in vegetable wonders, almost beyond the other three : and *America* hath supplied us, with such an additional list of *herbs*, of *flowers*, and of *fruits*, as is of itself sufficient to amaze with its variety, and to charm with its excellence and utility.

And as the *sorts* of vegetables are so various, so is there a variety no less worthy notice in every particular respecting them : For tho' the cause and process of vegetation is, in all, nearly the same ; yet how different are the effects, how diversified the produce ? No two trees or plants are the same, either in trunk, stem, leaf, flower, or fruit ; each trunk produces a wood of its own nature, and for its proper use : every fruit retains its own, its peculiar taste : each leaf, tho' invariably the same, in every plant of the same kind, is yet different from all others ; and each flower, tho' it sends forth its own, its peculiar odour, is yet distinguish'd from all others : how much doth the *lilly* vary from the *rose* ?

And tho' amidst this beauteous variety, a simplicity of design, and singleness of cause is evidently discernible ;

yet

yet to shew, that he is not confined to any one mode of acting ; we see the Deity often varying from his standard rule, (if I may be allowed so to say,) and shewing a variety in his productions to testify the freedom of his agency †.—Hence it is, that tho' almost all fruits are preceded by blossoms, yet there are some which have no blossom at all: and others in which the fruit is seen first *. Tho' in most plants, the fruit proceeds from the same place where the blossom was : yet in some the fruit appears where the blossom never was ‡. In some, the fruits ripen first, nearest their stalks § : In others, furthest off from them || : In some flowers, such as are highest and most remote from the root come first to perfection **: In others, the lowest, and nearest the root, are first in full beauty §§. And thus, many other instances might be produced of that variety in operation, which God is pleased to exert in this part of his creation : where yet the most simple cause universally produceth one regular effect ; and the same seed, the same tree, herb and flower, invariably continue to propagate their own species, and to bring forth their own proper produce.

Such is the variety in vegetables, which the *earth* discovers to us : a variety, which will be much enlarged if we extend our speculations to the *sea* ; where also innumerable

† This may serve abundantly to prove the divine interposition, and to convince Infidels, if they will be convinced, that not blind chance, but a wise director formed, and rules the present system.

• Figs, melons, cucumbers, &c.

‡ Wall-nut, hazle-nut, chestnuts, Indian corn, &c.

§ Pears, apples, grapes, &c.

|| Figs, melons, peaches, plumbs, apricots, &c.

** Carnations, jessamin, &c.

§§ Lillies, hyacinths, &c. See *Nieuwentyt's Religious Philosopher*, vol. ii.

plants

plants are found, and where there is the largest scene for reflections on the wisdom and power of the great creator.

Now as God's works in the vegetable creation are thus manifold; as there is such an exuberant variety of trees, herbs, and flowers, each calculated for its particular use, and serving to the different necessities and demands of men: as amidst this variety of *kinds*, there is also such a surprising diversity of operation; their shapes, their hues, their purposes being so multifarious: as God in these productions acts with such a free and unrestrained power: need we add in the *second* place, that they bespeak the *wisdom* of the creator; that all, being *made* in *wisdom*, all lead us to adore mighty maker?

II. The *Platonists* had a notion, respecting what they called the *idea* of the world, in the mind of the creator. And truly, I know not any thing relative to the material world more grand and surpassing human conception, than the consideration of the Almighty's wondrous plan of this created system: every particular in which, bears the most manifest token of design; and not the meanest blade of grass, but must have been planned in his mind, (if we may be allowed to speak of God, after the manner of men:) planned, and designed by him, before it was actually brought into being. Which, when we reflect upon, how awful, how august must be our apprehensions of that immense creator, who hath produced such an unspeakable variety of vegetables, (for to these we confine our view) all so different, and endowed with such different and excellent qualities! And when we consider in what manner these are propagated: how they are supported: and after what sort the great work of vegetation

tation is carried on, we shall still find room, much more to note the wisdom of the original designer. Look we at a *seed*; and, coarse and uncomely as the outside may appear, one would wonder, that, from such a piece of matter, a noble tree or lovely flower should be produced. But when we examine the *seeds*, and perceive that every one hath its plant, wrapped up in its little circumference †: That *earth* and *water*, aided by the *air*, will by-and-bye call forth that plant from its dark dwelling, and rear its green head to the sun: When we find that this plant produceth, in return, an innumerable quantity of this same seed ‡; and that each of these seeds again will produce their plant*; we cannot but admire the wisdom of the great contriver; nor behold, but with delight, his creation thus marvellously supported. And as the seed is of so much importance, we may also observe the wisdom of the creator in his disposal of it; guarded so amazingly as it is, in some cases; and in others produced with such vast profusion; that there is no danger of the species ceasing; and let me add, tho' that more properly belongs to his *goodness*—the plenty of the seed is usually in proportion to the necessities of mankind: Wheat, of vegetables perhaps the most extensively useful, is of vegetables the most providentially prolific §.

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† See *Ray* and *Nieuventijt*.

‡ See *Ray's Wisdom of God*, &c. p. 108. &c. And *Dr. More's Antidote against Atheism*, book ii. chap. 2. and in various other parts. But especially, the latter part of the 7th Book, of that inimitable poem *Anti-Lucretius*. Tho' indeed the whole *Book* deserves an attentive perusal; as the Author proves in the most elegant Language, from the most admirable Subject (the *human frame*) the certainty of a *creating* power.—It is much to be wished, some able Poet would favour the Public with a Translation of this fine performance, which would be of great utility to the world, and much credit to the Translator.

* See *Parson's* Analogy between the propagation of animals, and that of vegetables.

§ The following passages from the entertaining, and useful Travels of *Dr. Shaw* may serve to prove this. “Two bushels and a half of wheat or barley are sufficient to sow as much ground (in *Barbary*) as a pair of bees will plow in one day; which is a little more

As the wisdom of God is abundantly displayed in the variety of the vegetable world, and the method he hath taken to propagate and preserve that variety, by the seed; (which let us also observe is various in every plant;)—So the wisdom of the Deity no less deserves our grateful adoration, on account of the simple, yet infallible method, by which the astonishing work of *vegetation* is continually carried on. The present place and time will by no means permit me to enlarge on the various process of nature in this work; which of itself is sufficient to satisfy us of the divine wisdom and power: But we cannot reflect at all on the circulation of the sap in plants; on the curious œconomy and anatomical exactness of their several parts to this end; on their separating and extracting from the earth, the several juices peculiar to their several kinds; and on the simplicity of the external causes, which universally produce this vegetation, and these different effects of it: we cannot, I say, reflect at all on these, and not join the emphatic Psalmist;

more or less equal to one of our acres. I could never learn, that *Barbary* afforded yearly, more than one crop; one bushel yielding ordinarily from eight to twelve; though some districts may perhaps afford a much greater increase. For it is common to see one grain produce ten or fifteen stalks; even some grains of the *Murwaany* wheat, which I brought with me to *Oxford*, and sowed in the *physic garden*, threw out each of them *fifty*. But *Muzeratty*, one of the late *Kaleefas*, or *Vice-roys*, of the province of *Tlemsan*, brought once with him to *Algiers*, a root, that yielded *four score*; telling us, that, (in consequence of a dispute concerning the respective fruitfulness of *Ægypt* and *Barbary*) the *Emeer Hadge*, or Prince of the western pilgrims, sent once, to the *Bashaw* of *Cairo*, one that yielded *six score*. *Pliny* mentions some that bore three or four hundred. It likewise happens that one of these stalks will sometimes bear two ears; whilst each of these ears, will as often shoot out into a number of lesser ones, thereby affording a most plentiful increase. And may not these large prolific ears, when *seven* are said to come up upon one stalk, (*Gen. xli. 5.*) explain what is further mentioned. ver. 47, of the seven fruitful years in *Ægypt*, viz. that the earth brought them forth by *HANDFULS*?" *Shaw's Travels*, p. 137. *Pliny* in the passage referred to above, remarks — *Tritico nihil est fertilius: Hoc ei natura tribuit quoniam eo maxime alat hominem!* — *Lib. xviii. c. p. 10.* See the rest. *Varro* tells us, that in *Syria*, near *Gadera*, and in *Africa* about *Byzantium*, they reaped an hundred bushels from one; and the learned *Bochart* (in his *Canaan*, l. i. cap. 25.) speaks of two or three hundred. See *Ray's Wisdom of God*, &c. p. 112. who observes, that *wheat* is patient of both extremes, heat and cold, and grows to maturity as well in *Scotland* and *Denmark*, as in *Guinea* and *Madagascar*.

Lord,

Lord, how manifold are thy works, in wisdom hast thou made them all! In such wisdom, that after all the original || plants and seeds were created; they have been invariably preserved and continued by the most simple process, and there is no new species brought into being; no original one lost; but each is continued in its usual form, and constantly appears, according to its primitive designation: Yet all, tho' thus various, are but different modifications of the same earth; which by the wonderful management of the mighty artist, now is blooming in the velvet of the flower; now hardening in the solid substance of the trunk; now melting in the delicious ripeness of the fruit.

Indeed, if the survey of an elegant machine, which by the most simple cause produceth the most pleasing motions and effects, nay and serves to the most useful purposes:—If that survey leads us rightly to conclude of the wisdom and ingenuity of the artificer:—Surely from a survey of the exquisite beauty, and extraordinary utility of the vegetable creation,—nay, (of the meanest herb, for every herb speaks its God †:) We shall be led to adore the hand which form'd them, and be anxious to procure to ourselves, by a suitable demeanor, the favourable regard of a being, so wise and powerful *. There

|| I say *plants* and *seeds*, because *Moses* particularly specifies the *seed*, when he mentions the creation of *plants* and *trees*, &c. “God said, Let the earth bring forth, —” “herb yielding *seed*, — and *tree* — whose *seed* is in itself.” See Gen. i. 11.

† Quælibet herba Deum.

* An polycletum quidem admirabimur propter partium statuae convenientiam ac proportionem? Naturam autem non modo non laudabimus, sed omni etiam arte privabimus, quæ partium proportionem non solum extrinsecus, more statuariorum, sed in profundo etiam servavit? Nonne et polycletus ipse naturæ est imitator, in quibus saltem eam potuit imitari? Potuit autem in solis externis partibus, in quibus artem consideravit. *Galen* de Usu part. lib. xvii. cap. 1. To which curious and useful work, I have great pleasure in referring my reader, for much more to the same purpose, and for the noblest entertainment. *Cicero* in his admirable Treatise *De nat. deorum*, hath several fine arguments in proof of a Deity from the topic of *design*, *order*, &c. in creation. See
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There are innumerable other particulars, respecting the vegetable world, which deserve a minute examination, and tend to display, in full Glory, the consummate wisdom of God. But I must pass by these to come to the III^d thing proposed, namely, the *riches* of the divine *goodness*, manifest in the vegetable world ;—*The earth is full of the goodness of the Lord*,—*The earth is full of his riches*.

III. It seems amazing that any human Being, who exists by the bounty, and lives on the repeated beneficence of Almighty goodness, should ever dare to tax that goodness ; much more should dare to advance that the traces of it are very imperfectly discerned in this world. Yet such is the bold position of a late noble *Lord* †, who was willing to sap the foundation of religion ; and therefore in the furiousness of his zeal, was vain enough to advance, what every moment's experience confutes. In the vegetable

particularly lib. ii. cap. 5. as well as *Anti-Lucretius*, lib. vii. ver. 180, and 467. And to those who deny it, we may apply with our poet's fine questions —

Who taught the nations of the field and wood,
To shun their poison, and to choose their food ?
Prescient the tides, or tempests to withstand,
Build on the wave or arch beneath the sand :
Who made the spider parallels design,
Sure as De Moivre, without rule or line ?
Who bid the stork, Columbus-like, explore,
Heav'n's not his own, and worlds unknown before ?
Who calls the council, states the certain day,
Who forms the phalanx, and who points the way ?

Pope's Essay on Man. lib. iii. p. 100, &c.

† See his fifth volume in various parts ; and for a full confutation *Leland's View*, vol. i. lett. 23. 3^d edit. How much superior to his reasoning is that of *Seneca's*, with which indeed the noble Lord, (as well he might upon his principles) is much offended.—*Non dat Deus beneficia ? Unde ergo ista quæ possides ?—Unde illa luxuriam quoque instruens copia ? Neque enim necessitatibus tantummodo nostris provisum est — Usque in delicias amamur ! Tot arbutta non uno modo frugifera, tot herbæ salutes, tot varietates ciborum, per totum annum digestæ, ut inertī quoque fortuita terræ alimenta præberent. Jam animalia omnis generis,*

table world there are the most evident traces of the particular goodness and bounty of God to his creatures: Since we shall find, amidst the vast variety of vegetables, many that manifestly serve to no immediate use and necessary end; but conduce solely to the gratification of innocent pleasure and satisfaction in the human species: And if such be the case, can we doubt the tender mercy and beneficence of God towards his creatures?

If we class the vegetable world, under three ranks, as serving first for the *food*: 2dly, for the *pleasure*: and 3dly, for the *health* of mankind; we shall under each class discern the interposition of God for good, and see sufficient cause to confess, that the earth, in this respect, is full of his goodness.

1. For if we take a view of the vegetable creation, designed either for our own *food*, or for the food of those animals, which are ordained for our several uses, what a variety of nutritive esculents have we before us; to gratify every taste, to satiate every appetite! Esculents, which doubtless are wonderfully serviceable to the health of man; and which, many of them are produced at that season of the year, when cooling herbs and fruits are peculiarly desirable, and refreshing, which, many of them are produced in such plenty, and grow almost freely as the grass of the field, that

generis, alia in sicco, alia, &c.—ut omnis rerum naturæ pars tributum aliquod nobis conferret. Sen. de benefic. lib. iv. cap. 5. Seneca's expression, *usque in delicias amamur*, brings to my mind a remark, once made to me, when conferring on this subject, by a late friend, celebrated alike for his elegance and piety, now *is maximus* who observ'd, "that the Deity, (if I may be allowed the phrase said he,) seems even *complaisant* to his creatures: not only giving them what is necessary, but giving it in the most elegant manner, and with the most pleasing circumstances." To which may be added the remark of *Balbus* the Stoic, in *Cicero's* book, *De nat. Deor.*—*Quid multitudinem, suavitatemque piscium dicam? quid avium? ex quibus tanta percipitur voluptas, ut interdum Prona nostra Epicurea fuisse videatur.* Lib. ii. cap. 64.

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the *meanest* of the people may easily procure them, and see cause, with the *biggest*, to adore the goodness of their God. And if we extend this survey to the productions of the eastern world; to *China* and the Spicy Islands, we shall find the vegetable creation supplying us with such means of *nourishment*, and *refreshment*, as is not to be paralleled by almost any other productions of nature.—And we may remark, that as we owe to the vegetable world the most exquisite of our *food*, so also the most elegant part of our cloathing, as *cotton* and *linen* †, and perhaps we might add *silk* *; each of which in their several processes, would well repay our most curious investigation.

2. But, not created only to supply us with *food*, abundance of beauties, and delicacies charm us in the vegetable world, which evidently are subservient to no end, but the pleasure and delight of mankind.—I must add, and to the glory of God, by the heart and lips of man, so delighted. Why else such a profusion of different fruits? Why so many *sorts* of the same *kind*? Why do the flowers bloom with such exquisite tints, and regale us with such an elegance of odour? Why hath every season its peculiar flowers to adorn our borders, and decorate our gardens? Why hath every flower its peculiar shape, and hue, and smell? Why should the rose be deck'd in the bloom of the morning;

† To give a particular detail of the management of *cotton* and *flax*, would swell these notes beyond their just bounds: I must therefore request the curious reader, to consult that pleasing and most instructive work *Speſtacle de la Nature*, vol. i. dialogue 15.

* Some may think, perhaps, that I should have omitted *silk*, as more properly belonging to the animal or reptile world: Since the *worm* is the great artificer. But as the *mulberry-tree* is, at least, as necessary to the production of silk, as the worm; and is the vegetable, by nature peculiarly appropriate to this exquisite production; it seemed not altogether foreign to my subject; and on that account will, I hope, be judged at least a pardonable addition.—For the management of the *silk-worms*, &c. I refer to the work quoted in the last note, as well as to *Vida's* beautiful poem on the subject.

or why the lilly clad in the whiteness of the snow? Why the blue violet diffuse its sweet odours in the privacy of sequestered vales; and the carnation rear its rich head, studious of the general notice?—No reason can be assigned for these things, but the goodness of the Deity: who in great bounty, hath stored the earth with profuse blessings, for the sake of man, his *favourite* creature;—happy man if he receive the noble present with thankfulness.

We may observe that no creatures but the human, *seem* to take any delight either in the bloom or the odours of the vegetable world; and therefore we conclude, they are calculated, in an especial manner, for their use and delight; were formed for their pleasure and satisfaction by the great author of beauty; and should therefore be used, as means of his glory; as means to elevate our grateful hearts to him, when they present their acceptable offerings to our sight and smell. It is true, the flowers are, many of them, useful in medicine; and, with wondrous art, that natural chemist, the laborious bee, extracts from them a sweet of the most salubrious kind to man; yet these seem rather accidental advantages derived from them. While it may further be remarked, in proof that the Creator consults elegance and beauty, as well as utility in his creation, that the blossoms of those trees, which produce *fruits* are both lovely and odoriferous; and serve not only to the end of production, but also to gratify and please the human sense.

3. But there is a third particular, whereby the goodness of God discovers itself in the vegetable productions, which are eminently serviceable as for our food, and our pleasure, so also for our *health* †: for he hath kindly held out a helping

† The efficacy of greens and herbs, says an ingenious friend in a letter, as related by Lord Anson, in the speedy recovery of his sailors from the scurvy, is truly wonderful. See Lord

helping hand to us, under those afflicting diseases, (to which fallen human nature is subject,) in the vegetable world ; and it is presumed by many, and, in a great measure approved by your practice,—that there is no disorder incident to the human body, for which the proper application is not *discoverable* in the vegetable or mineral world. Indeed one cannot wish for a fairer display of the divine *goodness*, than the physical plants, and productions supply us with : Some of a nature so extraordinary, that he must have a faith of the most *infidel* size, to disbelieve the intervention of a deity, or to doubt, that such causes were intended for such effects.—*You* have, every day, experience of the healing efficacy of the vegetable world ; and cannot be employed in your necessary practice, without having continually before your eyes, convincing proofs of that adorable goodness, which hath supplied mankind with such excellent medicines. Your very *officinals* * are themselves sufficient tokens of the divine riches and mercy ; held out as they are for immediate and universal advantage, and daily experienced in their salutary effects. But when you contemplate the marvellous efficacy of some *sublimier* medicines, you cannot fail to acknowledge the goodness of that Being, who hath provided such happy alleviations of the unavoidable miseries of human nature.

It would tend greatly to demonstrate the goodness of God, if a survey was taken of the several vegetable pro-

Lord Anson's Voyage by *Walter*, p. 151, &c. 8vo. edit. And indeed, we can scarce read the History of any long Voyage, without proofs of this. Amongst the rest, see that of Capt. *Woodes Rogers*, which Mr. *Newbery* has lately published in the sixth Volume of his *Voyages and Travels*, a work highly deserving the encouragement of all who have any concern with young people. I refer to p. 133. of this sixth Vol.

* See "*Index plantarum officinalium, quas ad materiæ medicæ scientiam promovendam, in Horto Chelfiana ali ac demonstrari curavit Societas Pharmaceutica Londinensis.*"

ductions,

ductions, conducing to the health of man ; but this cannot be done here. We will only remark, that it hath often been advanced, tho' never traced with much accuracy, (never attempted, I believe, except by one physician at *Dort* †) that “the great and wise creator, hath provided “for every climate such vegetables as are suitable to the “inhabitants of that climate, and most proper for the “meat and medicine ‡ of the men and animals, that are “bred and inhabit there.” Many instances hereof might easily be produced ; but there is none, perhaps, more deserving notice, than the *American aloe*, which supplieth the inhabitants of the country, where it is found, with almost all the necessaries of life ; with food, phyfic, and covering*.

I must

† The title of his book is, “*Joh. Beverovicij Avroaguna Bataviæ ; — Sive Introductio ad Medicinam Indigenam.*” A small treatise in 12mo. containing about 160 pages.

‡ See *Spectacle de la Nature*, vol. i. p. 291. Mr. Ray in his *History of Plants*, lib. xvi. cap. 3. observes, ‘*Tales plantarum species in quacunque regione a deo creantur, quales hominibus et animalibus ibidem natis maxime conveniunt : imo ex plantarum nascentium frequentia se ferè animadvertere posse, quibus morbis [endemiis] qualibet regio subiecta sit, scribit Solenander.* Sic apud Danos, Frisios, Hollandos, quibus, *Scorbutus* frequens, *Coclearia* copiose provenit.—And we may add, not only *scurvy-grass*, but many other *anti-scorbutics* are found in our own island, held out as it were by the hand of Providence.—An ingenious *Botanist* hath lately recommended the *water-dock*, as an unfailing medicine.—To these might be added the antidotes against poisons, and poisonous animals. Most *European* venomous animals carry their cure as well as their poison, in their own bodies. See Dr. Mead on Poisons.

* Sir Hans Sloane, in his *Natural History of Jamaica*, vol. i. p. 247, gives a long account of the *aloe*, and tells us from *Hernandez*, that this plant alone, (if human desires knew any bounds) would supply almost all the necessaries of life. It is sufficient for fencing fields and gardens : the leaves are good thatch ; the stalks beams. The fibrous or nervous part supplies the uses of flax, hemp, or cotton, to make thread or cloth ; the prickles are good for pins, needles, nails, bodkins, and piercers to make holes in the ears. The *Indians* likewise used them (in their idolatrous worship) to do penance to their bodies ; neither are they unfit for instruments of war. If this plant be lopt, or the trunk cut off, there issues out forty or fifty *arrobas* (each of which is thirty-two pounds) of liquor from each plant, out of which is made wine, vinegar, honey, and sugar. The liquor is sweet of itself, and drinkable ; growing by boiling thicker, turning first to syrup, then to sugar. They mix water with the juice, and some orange, and melon seeds, adding likewise some intoxicating ingredients with which they love to be drunk. Vinegar

I must remark once more, before I leave the subject, that though *poisonous* herbs may seem to raise some objections against the goodness of God; yet these objections appear to be, in part, removed by this consideration, (to which if time allowed many more might be added) “that those *herbs*, which are most poisonous, when properly made up and applied, become the best medicines.” *Hemlock* hath a variety of uses; and not that only, but as Mr. *Ray* observes, “many other, if not most plants accounted poisonous, may have their great use in medicine*.” And we may be satisfied, that the farther and the more carefully we

is made by mixing the sugar with water, and exposing it nine days to the sun. The juice brings down the *catemania*, is diuretic, opens the belly, cleanses the kidneys, bladder, and ureters, breaks the stone, and is also vulnerary. The roasted leaf, the juice squeezed out with a little nitre, takes away scars, if they be yet new, and anointed therewith. The leaves and trunks are, when baked, very good eating, and taste much like candied-citron chips. The leaves roasted and applied, remedy convulsions, and take away pains, especially if the hot juice be drank at the same time, even if those pains come from the *French Disease*.—The ingenious author of *Speſtacle de la Nature*, after having given nearly the same account, adds, “In a word, a whole family may be supplied with food, an habitation, and raiment, by an *aloe*.” He might have said, and with *physic*. Sir *Hans*, in the place quoted, mentions several other sorts of *Aloes*, and gives an entertaining account of a plant called *maguiz*, which yields wine, vinegar, honey, sugar; whose leaves make hemp, rope, shoes, tiles for houses, awls, needles, tables, hafts of knives, and serve to many medicinal uses.—Under this head too, we might add, (if our compass would admit) an account of that useful plant, the *cocoa-tree*, whose nuts are well known amongst us. And the providential provision of plants, abounding with water, in those hot countries, where there is scarce any to be found, deserves particular notice. But as we cannot give a full account of these, we must refer the reader either to *Navarette’s* Collection of voyages and travels, vol. i. in the suppl. p. 355. for a description of the *bejuco* tree;—or to *Dampier’s* Voyages, lib. ii. p. 56 for an account of the *wild pine*; of which a cut may be found in *Philosoph. Transactions*. No. 251. And concerning which, as well as the *water w’th*, (a plant no less curious) the reader may meet with full satisfaction in the same Sir *Hans Sloane’s* History of *Jamaica*, vol. i. p. 188. and vol. ii. p. 104.

* See *Ray. Hist. Plan.* lib. xv. cap. 2. Among poisonous vegetables, (says Dr. *Derham*, in his incomparable *Physico-theology*, p. 58. edit. 12.) none more famous of old, than *hemlock*, accounted at this day also very dangerous to man, of which there are some dismal examples in our *Philosophical Transactions*, *Wepfer*, &c. But yet this plant is food for goats, and its seed to bustards; and as *Galen* saith,

to

we trace these uses, and the more accurate we are in our experiments, the more evidently shall we discern the *goodness* of God ; which I have endeavoured thus briefly to display from a consideration of the vegetables produced for *food*, for *pleasure*, for *physic*. To particularize upon each topic, would perhaps be the most entertaining part of a discourse ; as well as to speak of those foreign productions, to which we are indebted for so many gratifications. But I fear I have already exceeded the proper bounds ; and shall therefore only make a practical remark or two in conclusion, respecting the improvement we should make of this subject.

1. As then the works of God are so manifold, and his productions in the vegetable world so various ; let this be a

to *starlings* also. Neither is this, so pernicious a plant, only food, but also physick to some animals. A horse troubled with the farcy, which could not be cured with the most famous remedies, cured himself of it in a short time by eating of *hemlock*, of which he eat greedily. See Philosoph. Transactions, No. 231. " And a woman, (says Dr. Mead, in his Treatise on poisons, p. 144.) who was cured of the plague, but wanted sleep, did with very good effect eat *hemlock* for some time ; till falling ill again of a fever, and having left off the use of this remedy, her physician endeavoured to procure her rest, by repeated doses of *opium*, which had no operation, till the help of *cicuta* was again called in with desired success." — Dr. Robinson in a letter to Mr. Ray sends several observations concerning plants, seldom used in medicine, being esteemed poisonous, which if truly corrected, or exactly dosed, may perhaps, prove the most powerful, and effectual medicines yet known. Such are, *bellebores*, the *radic. affari*, *cicuta*, and the *Napellus*. The *hyoscyamus* ; the *semen stramoniac*, *claterrum*, *opium*, properly corrected, may be given in great doses, as it loses its narcotic faculty, and is useful in all convulsive cases, fluxes, catarrhs, and all painful paroxysms, &c." — It deserves to be remarked, that the *cassada* plant, which is of the most general use of any provision, as the bread all over the *West-Indies*, especially in the hotter parts, and is used to victual ships, is yet, if eaten unprepared, a strong poison. See Sir Hans Sloane's *Jamaica*, vol. i. introd. 18, 25. Sir Hans observes, " It was matter of wonder to me to think how so many people, perhaps one fourth part of the inhabitants of the whole earth, should come to venture to eat bread made only by baking the root of *cassada*, which is one of the rankest poisons in the world both to man and beast, when raw. Though I must confess, there is an instance in several *ranunculi*, common in our meadows, which when green, blister and ulcerate sturdy beggars, so as to excite compassion ; and are not touched by cattle ; but left standing in the fields, and yet are, (as I am told) fed on greedily by all sorts of cattle, when only made into hay. There is an instance also of this in the roots or leaves of *arum*, of which many kinds, uncommon to *Europe*, are eaten, when dried and prepared, as *colocasia*, &c. And even, the roots of the common ones are eaten in *Italy*, when dried into flower, and made into bread ; tho' every body knows the great acrimony they have when raw."

motive to incline Gentlemen, in *your* profession especially, more and more to the study of these mighty works; that you may make still further discoveries of the Virtues which yet lie hid, and bless your fellow-creatures, more and more, with the salutary comforts of medicinal help. Much yet remains to be known; for the riches of the divine munificence in creation are inexhaustible. But he hath, as it were, concealed from immediate view, the virtues and excellencies of his gifts, to stimulate human industry, to excite and animate the labour of investigation. Wild weeds, thorns and thistles, grow without any care, spontaneous and abundant; but plants of profit and pleasure require the toil and the tendence of man: all, as with one voice, declaring to us, that the Deity never designed man for an idle inhabitant of his globe; but determined to bless his useful and necessary labours with the pleasing rewards, which we find, from all time, have accompanied them: and which of consequence are the most enlivening encouragements to the pursuits of activity, to the exercise and enquiries of diligence.

And as the more accurate and careful we are to search into the works of God, as the more we perceive of their excellence and wonders; the more we must be led to contemplate and observe the stupendous wisdom of the work-master; let us not fail to improve that knowledge into practice; nor to shew, that upon the most solid and rational foundation, we are led to the most humble and commendable dependence on the Father of unexhausted goodness.

The inimitable author of the Book of *Wisdom* convicts those of the greatest vanity and folly, who could not discern the Deity from his *works*. Surely, saith he, *vain are all*

men by nature, who are ignorant of God, and could not out of the good Things that are seen, know him that is : neither by considering the works, did they acknowledge the work-master, but deemed either fire or the wind, or the swift air, or the violent water, or the light of heaven, to be the gods, which govern the world : with whose beauty, if they being delighted, took them to be gods ; let them know how much better the Lord of them is : For the first Author of beauty hath created them. But if they were astonished at their power and virtue ; let them understand by them how much mightier he is who made them : For by the greatness and beauty of the works proportionably the maker of them is seen. For which reason it behoves us the more carefully to inspect the works of God in creation ; which, now that *Philosophy* hath arrived at so great a degree of perfection, we have the best opportunities to scrutinize ; and which the more accurately we investigate, and the better we are acquainted with ; the nearer will they lead us to the great work-master, and teach us more to admire the first Author of Goodness and Beauty.

Little dabblers in nature, like little proficients in all other knowledge, are too commonly sceptical and conceitedly arrogant: A thorough and deep knowledge of God's Works will not only lead us to a more just knowledge of God, but to the best knowledge of ourselves. And the more we trace the wisdom of the infinite cause, the more clearly we shall be certain to discern it, the more rationally shall we be led to pay it the highest honour. *Galen* was ill disposed to the acknowledgement of a deity ; but upon a nice and distinct survey of the human frame, and as he observed more and more the productions of almighty power, he confess'd his error, fell down, and ador'd.

It has been commonly, I will not say how truly, observed, that Gentlemen in the profession of Physic, have been remarkable for their inattention to religion : How far this may be the case, *you* are the best judges. For myself I am bound in justice to several, eminent in their profession, whom I am happy enough to know, to declare, that I heartily wish all men were Christians, excellent as themselves.—But if there be any truth in the remark, surely it passeth all wonder ! For if one might expect humanity and piety more peculiarly amongst any order of men, it would with the greatest reason be expected amongst those, who tend the couches of the miserable ; who watch the last lingrings of departing life ; who perpetually converse with death, beholding him in all his terrors ; shaking his dart, and preparing to strike once and strike no more ! And whose applications continually remind them of that beneficent Creator, who hath supplied mankind with such healing drugs and salutiferous medicines.—And permit me to observe, that if amidst such scenes and such employ, the heart is hardened into an utter forgetfulness of God ; no condemnation can be supposed more just, or more dreadful than theirs, who, daily familiar with death, forget they are themselves to die ; and who, tho' daily employed in administering healing medicine to others, never implore the Almighty *HEALER's* aid, either in behalf of themselves, or of those, to whom they minister.

Far different, I persuade myself, will be your conduct : remembering that your occupation is of the most important nature ; that the lives of men, and their dearest interests are committed to your trust ; you will conscientiously discharge *your* parts, and improve in *humanity* by every pitiable

able

ble object you are concerned with ; and improve in *piety*, by serious reflection on every useful drug you administer. And certainly your free access to the couches of the languishing and the faint ; your frequent opportunities to discern their distresses and calamities ; may give you many fair occasions to throw in the balm of healing counsel, and to offer the seasonable cup of religious and friendly consolation. Thus, by being able to support and sustain, in some measure the minds of your patients, you may with greater facility procure a good effect to your medicines ; as well as, perhaps, full often be the means of bringing a soul to that *peace* and *health*, which is preferable far to every thing below ; for it is eternal. And surely it were well worth while to study the diseases of the *mind*, in some degree, as well as those of the *body* ; since their sympathy one with the other is too notorious to be denied ; and since all the drugs of Pharmacy are offered in vain, without proper mental relief, where the disease is seated in the soul.

2. The unutterable goodness of God displayed in the vegetable world, should tend to inspire these and every other sentiment of humanity : and the more we behold of his exuberant beneficence, the more should we endeavour to be like him, and to imitate his goodness by diffusing *our* benevolence, as widely and extensively as we are able.

But alas, as there are *weeds* and poisonous plants in the vegetable world ; so are there weeds and poisonous vices in the human mind : both proclaim the lapse of human nature ; and therefore, instructed by these, let us not think it sufficient to rest in a bare belief of the Deity, or on mere *moral* dependencies, while we disclaim the religion of *Christ* ;
which

which is that only from whence we can get medicine for all our sickness, pardon for all our transgressions, and cure for all our maladies. The blood of Christ is the only *panacea*, the only never-failing elixir for the sins of men. —And taught by the vegetable world, let us be satisfied, that no flowers of paradise, no graces of divine origin will grow and flourish in our hearts, without the influence of that Redeemer, the *Sun* of Righteousness, and of that blessed Spirit, the Giver of Grace; whose kindly influences are to the soul, as the softly-falling dew to the grass, and as the enlivening rays of light to the tender herb *.

While attentive to such reflections, you live as men who are conscious of the inexhaustible wisdom, power, and goodness of God, you will be a blessing to the world, and a comfort to yourselves; and we shall then with pleasure apply, and with more pleasure practise the wise man's advice with regard to *you*; no improper conclusion for the present discourse.

‘ Honour a Physician, with the honour due to him, for the uses which you may have of him; for the Lord hath created him: For of the most high cometh healing; and he shall receive honour of the King. The skill of the Physician shall lift up his head, and in the sight of great men he shall be in admiration. The Lord hath created medicines out of the earth; and he that is wise will not abhor them. Was not the water made sweet with wood, that the virtue thereof might be known? And he hath given

* As a fair occasion will hereafter be given me, to treat on the subject of *Vegetation*, I have omitted, in the publication, the remarks which were made from the Pulpit, touching this point, as also what was said respecting the *Resurrection*.

men skill, that he might be honoured in his marvellous works : With such doth he heal men, and taketh away their pains. Of such doth the Apothecary make a confection ; and of his works there is no end, and from him is peace over all the earth. My son, in thy sickness be not negligent : but pray unto the Lord, and he will make thee whole : Leave off from sin, and order thy hands aright, and cleanse thy heart from all wickedness. Give a sweet favour and a memorial of fine flour ; and make a fat offering, as not being †. Then give place to the Physician ; for the Lord hath created him : let him not go from thee, for thou hast need of him. There is a time, when in their hands there is good success. For *they* shall also *pray* unto the Lord, that he would prosper that which they give for ease and remedy to prolong life.” *

That all, in the practice of Physic, may so apply to God, for a blessing on their endeavours : that humanity, piety, and benevolence may abound more and more amongst them, and every other order of men ; God of his unspeakable mercies grant, for the sake of Jesus Christ our Lord. *Amen.* E

† This phrase, “ *as not being,*” is found in the Greek of the LXX. *ὡς μὴ ὑπαρχόντι* : but neither in the *Latin* of the *Vulgate*, which reads only, *impingua oblationem, & da locum medico* : nor in any other of the ancient versions. So that I think it may be well suspected, as it clogs the sentence, and may well be spared.

* *Ecclus.* xxxviii. 1. &c.

man shall, that he might be honored in his nation
works: which shall he best men, and take away their
praise. Of such doth the Almighty make a collection;
and of his works there is no end, and from him is peace
over all the earth. My son, in thy heart be not neg-
ligent: but pay unto the Lord, and he will make thee
whole: leave off from him, and on the Lord's right and
cleanse thy heart from all wickedness. Give a sweet in-
voice, and a song of praise; and make a harp offer-
ing, as thou standest. Then give place to the righteous;
for the Lord hath created him: let him not go from thee,
for thou hast need of him. There is a time, when in
their hands there is good success. For as thou shalt say
unto the Lord, that he would prosper that which they have
for ease and security, to prosper him.

I have said in the palace of my house, that I will
not a building on their foundations: that I will
and benevolence may abound more and more strength
them, and every other order of men: God of his unchange-
able mercy, give for the life of all, or shall our

Lord, Amen.

THE SECOND PART OF THE PSALM, WHICH BEING
A SONG OF DAVID, IS CALLED THE PSALM OF THE
LORD'S MERCY, AND IS THE FIRST OF THE
PSALMS OF THE SECOND BOOK.